

Implementing a Low-Literacy, Multimedia Information Technology System to Enhance Patient-Centered Cancer Care

Principal Investigator:	Hahn, Elizabeth, M.A.
Organization:	Northwestern University
Mechanism:	RFA: HS07-007: Ambulatory Safety and Quality Program: Enabling Patient-Centered Care Through Health Information Technology (PCC)
Grant Number:	R18 HS 017300
Project Period:	September 2007 – September 2011, Including No-Cost Extension
AHRQ Funding Amount:	\$1,198,839
Summary Status as of:	December 2010

Target Population: Adults, Cancer, Low Literacy, Low SES/Low Income*, Medically Underserved, Safety Net

Summary: Cancer-related information, if delivered in a user-friendly way, can reach populations with limited literacy skills. The research team hypothesizes that promoting patient understanding of disease and treatment through innovative information delivery methods will in turn promote better communication; treatment adherence; and outcomes including patient satisfaction with health care, patient-provider communication, cancer-related knowledge, patients' self-efficacy, treatment, and health-related quality of life (HRQL).

This project modifies a widely-used talking touchscreen multimedia information and assessment system for patients being treated for breast and colorectal cancer to be more accessible for patients across the spectrum of literacy skills. The CancerHelp® Talking Touchscreen (TT), developed by the CancerHelp Institute and investigators on this grant, is available at any time during clinic hours via a kiosk at the site. The software provides patient education on diagnoses, treatment, support, side effects, prevention, and screening. It contains easy access to cancer information from the National Cancer Institute, user statistics, and customizable features. Strategies will be implemented to enhance the ease of understanding the material and navigating through the program. For example, the amount of text on each screen will be shortened; patients will have the option to choose between text-based or audio presentation of education materials, communication tools, and assessment questions; and videos will be developed for certain modules.

During regular visits to cancer care centers for treatment, participants will interact with the adapted CancerHelp TT, which will enable patients to print information and generate a visit-specific checklist of their top priorities to discuss with their providers. At the conclusion of their in-clinic cancer treatments, participants in the intervention arm will also receive a post-treatment cancer survivorship care plan, modeled on templates from the Institute of Medicine. The survivorship care plan summarizes the cancer treatments they have received and provides appropriate aftercare recommendations, including detailed contact information for future appointments. Participants' oncologists review the care plan with them and instruct them to provide a copy to their primary care physicians. This survivorship care planning is designed to minimize the interruptions in care that can occur when patients complete their cancer treatments.

The intervention will be evaluated through a randomized controlled trial (RCT) of 200 patients with breast or colorectal cancer conducted at three ambulatory cancer care centers. Patients in both the intervention group and control group will use the TT to complete surveys on knowledge, satisfaction, HRQL, and other study measures up to three times during treatment and once afterwards. Both groups will receive diagnosis- and treatment-specific brochures; however, only patients randomized to the intervention arm will have access to the software adapted for this intervention.

Specific Aims:

- Test whether a low-literacy-friendly multimedia information and assessment information technology system used in daily clinical practice improves patient outcomes during treatment in 200 recently diagnosed breast and colorectal cancer patients based on the primary endpoints: satisfaction with health care communication, knowledge of cancer and treatment, self-efficacy, adherence to recommended treatment, and HRQL. **(Ongoing)**
- Evaluate the relationships between patient characteristics, resources, needs, health behaviors, and health outcomes using the Behavioral Model for Vulnerable Populations. **(Upcoming)**
- Test whether use of the multimedia information technology system improves adherence to recommended post-treatment surveillance care and HRQL during the early post-treatment surveillance period (3 months after treatment). **(Upcoming)**

2010 Activities: At the start of the year, the research team began to recruit and enroll patients into the RCT. The team held regular onsite meetings with the directors of the three participating sites to review procedures for identifying and enrolling patients. These meetings facilitate communication, organization of patient data, and identification of the physician responsible for presenting the survivorship plan to the patient. Two of the three sites are meeting their recruitment goals. The principal investigator and director of the third site met to address their low recruitment numbers and to develop and implement strategies to increase recruitment. However, it was determined that patient volume at the site was lower than expected and therefore the site would not be able to support the target sample size. As a result, the third site will be replaced by a clinic with heavier patient volume. While the team would have preferred to recruit patients from all four sites, this arrangement was not possible due to funding. The principal investigator has met with the director of the new site to discuss the study and recruitment. As of the end of 2010, 50 patients were randomized to the intervention arm and 43 to the control arm.

Grantee's Most Recent Self-Reported Quarterly Status (as of December 2010): Project progress is on track with the revised timeline due to replacing one of the clinics. The project budget is somewhat underspent due to delays in recruitment.

Preliminary Impact and Findings: Thirteen patients were enrolled in field testing that was completed toward the end of 2009. Patient feedback was largely positive, and was used to improve the software. Recruitment and enrollment for the study is in progress. The team has begun to look at preliminary data. Participant characteristics will be assessed as interim recruitment goals are achieved.

Strategic Goal: Develop and disseminate health IT evidence and evidence-based tools to support patient-centered care, the coordination of care across transitions in care settings, and the use of electronic exchange of health information to improve quality of care.

Business Goal: Implementation and Use

* *AHRQ Priority Population*